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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

112740-936

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Application Number

10/777,880

Filed

February 11, 2004

First Named Inventor

DEVICE AND METHOD FOR FORMING A SET OF CELLS . .

Art Unit

2617

Examiner

Diego D. Herrera

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)☒ attorney or agent of record. 48,196
Registration number _____☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

Signature

Peter Zura

Typed or printed name

312-807-4208

Telephone number

December 21, 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Allan Madsen
Appl. No.: 10/777,880
Conf. No.: 6697
Filed: February 11, 2004
Title: DEVICE AND METHOD FOR FORMING A SET OF CELLS FOR TIME
DIFFERENCE MEASUREMENTS, AND FOR MEASURING TIME
DIFFERENCE FOR LOCATING A USER OF A MOBILE TERMINAL
Art Unit: 2617
Examiner: Diego D. Herrera
Docket No.: 112740-936

MAIL STOP - AF
Director of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

This request is submitted in response to the Final Office Action dated September 21, 2006. This request is filed contemporaneously with USPTO form PTO/SB/33, "Pre-Appeal Brief Request for Review" and form PTO/SB/31, "Notice of Appeal."

Remarks begin on page 2 of this paper.

REMARKS

Claims 1-6 are pending in the present application. Claims 7-12 were previously withdrawn from consideration. Claim 1 is the focus of this request.

Claim 1-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Ville et al.* (EP 0930513) in view of *Padovani et al.* (US patent 5,577,022). Applicant respectfully traverses these rejections. Favorable reconsideration is respectfully requested.

Specifically, none of the cited art, alone or in combination, teaches or suggests “measuring, at the mobile terminal, received signal strengths of the neighboring cells having identifiers which are included in the first set of cell identifiers, with a number N of cells having a signal strength exceeding a predefined threshold constituting a set of available cells; reading, at the mobile terminal, a synchronization channel for the set of available cells, thereby measuring time differences for the set of available cells; selecting, at the mobile terminal, a second set of cells from the set of available cells using a predefined selection rule, the second set of cells including $M < N$ cells, wherein the predefined selection rule causes a non-selection of a cell having a same cell identity as another cell in the set of available cells if it is probable that the cell which is not selected and the another cell belong to one sectorized base station; and reading, at the mobile terminal, a synchronization channel for the second set of cells, thereby measuring time differences for the second set of cells” as recited in claim 1 and similarly recited in claims 7 and 11.

Applicants incorporate the arguments previously submitted in the Response dated June 29, 2006. Applicants note that *Ville*, in fact, does not teach receiving signal strengths of the neighboring cells having identifiers which are included in the first set of cell identifiers. The Office Action relies on [0007] of *Ville* as purportedly teaching this feature. While *Ville* admittedly mentions measuring relative field strengths, the context of this disclosure is in describing prior art systems, and the deficiencies they suffer vis-à-vis *Ville*’s improved system (see [0011]). As such, *Ville* discloses a cellular radio network based positioning system where, for each base transceiver station or cell of the network, a fixed list of base transceiver stations is stored by a mobile positioning center. Each list identifies base transceiver stations which enable the position of a mobile station served by the corresponding base transceiver station to be optimally determined (see Abstract). The list is transmitted to the mobile station via the serving base transceiver station, and

the mobile station determines an observed time difference for each of the listed base transceiver stations, relative to the serving base transceiver station, from signals broadcast by the listed base transceiver stations. The observed time differences are transmitted from the mobile station to the serving base transceiver station and are used by the network to compute the position of the mobile station(see Abstract; [0028-29]).

In contrast, claims 1 and 11 of the present application recite a method for forming a set of cells for time difference measurement for a mobile terminal camped on a first cell of a similar network and being in idle mode. The claims clearly recited that the mobile terminal measures “received signal strengths of the neighboring cells having identifiers which are included in the first set of cell identifiers, with a number N of cells having a signal strength exceeding a pre-defined threshold constituting a set of available cells.” As mentioned above, Ville clearly teaches away regarding the measurement of received signal strengths at the mobile terminal or for neighboring cells which cell identifiers have been received by the mobile terminal (paragraph [0007]: “[t]his renders the method unsuitable in practice for cellular radio positioning”). Furthermore, Ville does not provide any teaching regarding a combination of field strengths and time measurements. The selection of cells available for time difference measurements with the selection criterion being based on the received signal strengths of the neighboring cells having identifiers which are included in the first set of cell identifiers is clearly recited in the present claims, and is not addressed in Ville.

Moreover, it follows that Ville also does not teach the mobile terminal reading a synchronization channel for the set of available cells, thereby measuring time differences for the set of available cells. As discussed in the paragraph above, the available cells are determined by measuring, at the mobile terminal, received signal strengths of the neighboring cells having identifiers which are included in the first set of cell identifiers. As Ville teaches away from this configuration Ville also does not teach reading, at the mobile terminal, a synchronization channel for the set of available cells, thereby measuring time differences for the set of available cells.

Nevertheless, the Office Action conceded (page 4) that Ville fails to teach the mobile terminal selecting a second set of cells from the set of available cells using a pre-defined selection rule, the second set of cells including $M < N$ cells, wherein the pre-defined selection rule causes anon-selection of a cell having a same cell identity as another cell in the set of available cells if it is probable that the cell which is not selected and the another cell belong to one sectorized base

station. As also admitted in the Office Action, Ville is completely silent concerning this corresponding step. It also follows that, under these circumstances, Ville also fails to teach the mobile terminal reading “a synchronization channel for the second set of cells, thereby measuring time differences for the second set of cells” as required by the present claims.

Padovani fails to solve the deficiencies of Ville, discussed above. Padovani discloses a method for performing a pilot signal searching operation in anticipation of a hand-off between base stations (see Abstract). The mobile station in Padovani maintains a list (as contrasted with Ville, where the mobile positioning center maintains the list) of an Active Set of pilot signals transmitted from base stations with which the mobile station is to communicate through, and a Neighbor Set of pilots within a predetermined proximity of the mobile station (col. 7, lines 9-44). In addition to the Neighbor and Active Sets of pilots, the mobile station maintains a list of Candidate and Pre-Candidate Sets of pilots. Based on analysis of the signal strength of the pilot signals received at the mobile station, base station entries from the Neighbor Set may be assigned to the Pre-Candidate and Candidate Sets, and eventually to the Active Set (col. 8, lines 18-41).

It is clear from the disclosure that Padovani bears no relation to a method for forming a set of cells for time difference measurements for a mobile terminal. Also, Padovani does not teach that cells are selected using a pre-defined selection rule that causes a non-selection of a cell having the same cell identity as another cell in the set of available cells if it is probable that the cell which is not selected and the another cell belong to one sectorized base station. Applicants further note that neither Padovani nor Ville teach or suggest a sectorized base station (see amended specification, page 7, lines 20-26; FIG. 2; page 12, lines 4-17)

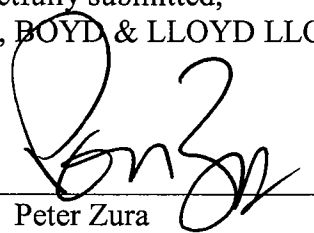
Applicants maintain that there is no teaching, suggestion or motivation for one of ordinary skill in the art to combine the Ville and Padovani references in the manner suggested in the Office Action. The disclosure in Ville is clearly based on time difference measurements whereas the method according to Padovani is based on measuring signal strengths, which was a disparaged method according to Ville (see above). Also, Ville deals with a positioning system whereas Padovani deals with pilot signal searching in the context of a handoff to avoid “false alarms” for a given pilot strength detection period (col. 10, lines 63-67). Neither Ville or Padovani teaches the combination of signal strengths and the measurement of time differences in a manner recited in the present claim, and neither references teach the use of a predefined selection rule which causes a

non-selection of a cell having a same cell identity as another cell in the set of available cells if it is probable that the cell which is not selected and the another cell belong to one sectorized base station. Applicant does not understand how these teachings could conceivably be combined and retain any reasonable expectation of success (see MPEP 2143.02, "prior art must be considered in its entirety, including disclosures that teach away from the claims"; see also MPEP 2145: "[i]t is improper to combine references where the references teach away from their combination")

In light of the above, the Applicant respectfully submits that the rejections to claims 1-6 are improper and should be reversed. Accordingly, the Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If any additional fees are due in connection with this application as a whole, the Commissioner is authorized to deduct such fees from deposit account no. 02-1818. If such a deduction is made, please indicate the attorney docket number (0112740-936) on the account statement.

Respectfully submitted,
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BY



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Dated: December 21, 2006